

Amendment to 09/933743 dated 22 April 2005

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Amendments to the Drawings

Please amend the drawings as follows:

- In Figure 1, item 201, please replace "USER INPUT" with --PROGRAM STORE--;
- In Figure 3, item 304, please replace "PERFORM LEARNING FUNCTION" with --PERFORM TRAINING FUNCTION--;
- In Figure 9, item 906, please replace "COARSE ADJUSTMENT" with --COARSE CALIBRATION--;
- In Figure 11B, item 1150, please replace "(R2, R3, R4)?" with --(R1, R2, R3)?--;
- In Figure 14, item 1414, please add "BETWEEN SoH AND SoH<sub>RM</sub>" after "COMPUTE DIFFERENCE"; and
- In Figure 15, item 1514, please add "BETWEEN SoH AND SoH<sub>RM</sub>" after "COMPUTE DIFFERENCE".

An Appendix including replacement sheets containing amended Figures 1, 3, 9, 11B, 14 and 15, together with annotated sheets showing changes is attached following page 22 of this paper.

Amendment to 09/933743 dated 22 April 2005Page 20 of 22**REMARKS**

Claims 1 to 35 and 37 to 40 are pending. Claim 36 has been cancelled.

**Compliance with 35 U.S.C. §101**

Claims 1, 24 and 37, as amended are all submitted to relate to patentable subject matter under 35 U.S.C. §101 at least because those claims recite computer-implemented or automatic methods that requires the measurements of physical objects or activities to be transformed outside of the computer into computer data (See MPEP §2106(IV)(B)(2)(b)). In particular:

- Claim 1 recites "obtaining parameter values from a calibration system". A calibration system is a physical thing. The process of claim 1 provides a system-specific set of fuzzy logic membership functions that can be used to obtain outputs indicative of the characteristic of test systems. Thus the method of claim 1 the process causes a physical transformation of the signals which are intangible representations of the physical objects or activities.
- Claim 24 recites an "automatic" method. Claim 24 recites "applying a current waveform to the battery and measuring a plurality of parameter values". A battery is a physical object. The process of claim 24 provides a model-specific set of fuzzy logic membership functions that can be used in combination with a set of fuzzy logic rules to assess the states of health of batteries to be tested.
- Claim 37, as amended is also submitted to relate to patentable subject matter under 35 U.S.C. §101. Claim 37 recites a computer-implemented method. The method involves obtaining parameter values from a calibration system. A calibration system is a physical thing. The method provides a system-specific set of functions that may be used to obtain one or more outputs indicative of the characteristic of a test system.

It can be seen that the methods of claims 1, 24 and 37 all involve physical transformations of signals which represent characteristics of physical things.

**Compliance with 35 U.S.C. §103**

The Office Action cites Singh et al. (6,456,988) in combination with Jones et al. and Rine et al. in relation to claims 1, 2 and 37.

Claim 1 recites "obtaining a system-specific set of fuzzy logic membership functions by scaling the corresponding plurality of membership functions". Claim 37 recites "obtaining

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a system-specific set of functions by scaling the corresponding plurality of functions". The Office Action suggests that Singh et al. discloses these features at col. 4, ln. 29-30. The Applicant submits that this is incorrect. The portion of Singh et al. referenced by the Office Action reads as follows:

" $B_j'$  — scaled then-part set (scaled output membership function  $j$ , result of  $a_j(x)B_j$ ), and"

Although this passage of Singh et al. uses the word "scaled" it does not disclose scaling membership functions relative to a parameter axis, as claimed. It discloses multiplying the output membership function by a number ( $a_j(x)$  is one number, see col. 4, ln. 53).

Paragraphs [0080] to [0086] of the Specification of the present application describe scaling. A membership function relates a parameter value to a membership function value. Scaling is performed relative to a parameter value axis (for example by moving points that define the membership function along the parameter value axis). The Applicant has amended claims 1 and 37 to recite that the scaling is performed relative to a parameter value axis of the function. Singh et al. do not disclose this. None of the other cited references overcome this defect in Singh et al.

The Applicant submits that claims 1, 2 and 37 patentably distinguish the cited references for at least the foregoing reasons. Therefore, claims 1, 2, 37 and their dependent claims are submitted to be patentable over the cited references.

#### Corrections to Specification and Drawings

The Specification and Drawings have been amended to correct the errors identified by the Examiner. The Applicant submits that these amendments add no new subject matter.

The Applicant advises that the amendment to page 29, line 6 of the Specification requested by the Examiner (replacing "Figure 10" with "Figure 9") has already been made by the Applicant by way of the Preliminary Amendment filed with the USPTO on 16 October 2003.

In addition, the Applicant advises that international patent publication No. WO 00/19578 cited on page 4 of the specification was submitted to the USPTO in an Information Disclosure Statement on 15 May 2002. A copy of this Information Disclosure Statement is enclosed.

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Conclusion

The Applicant submits that this application is in condition for allowance. Reconsideration and allowance of the application is respectfully requested.

Respectfully submitted,

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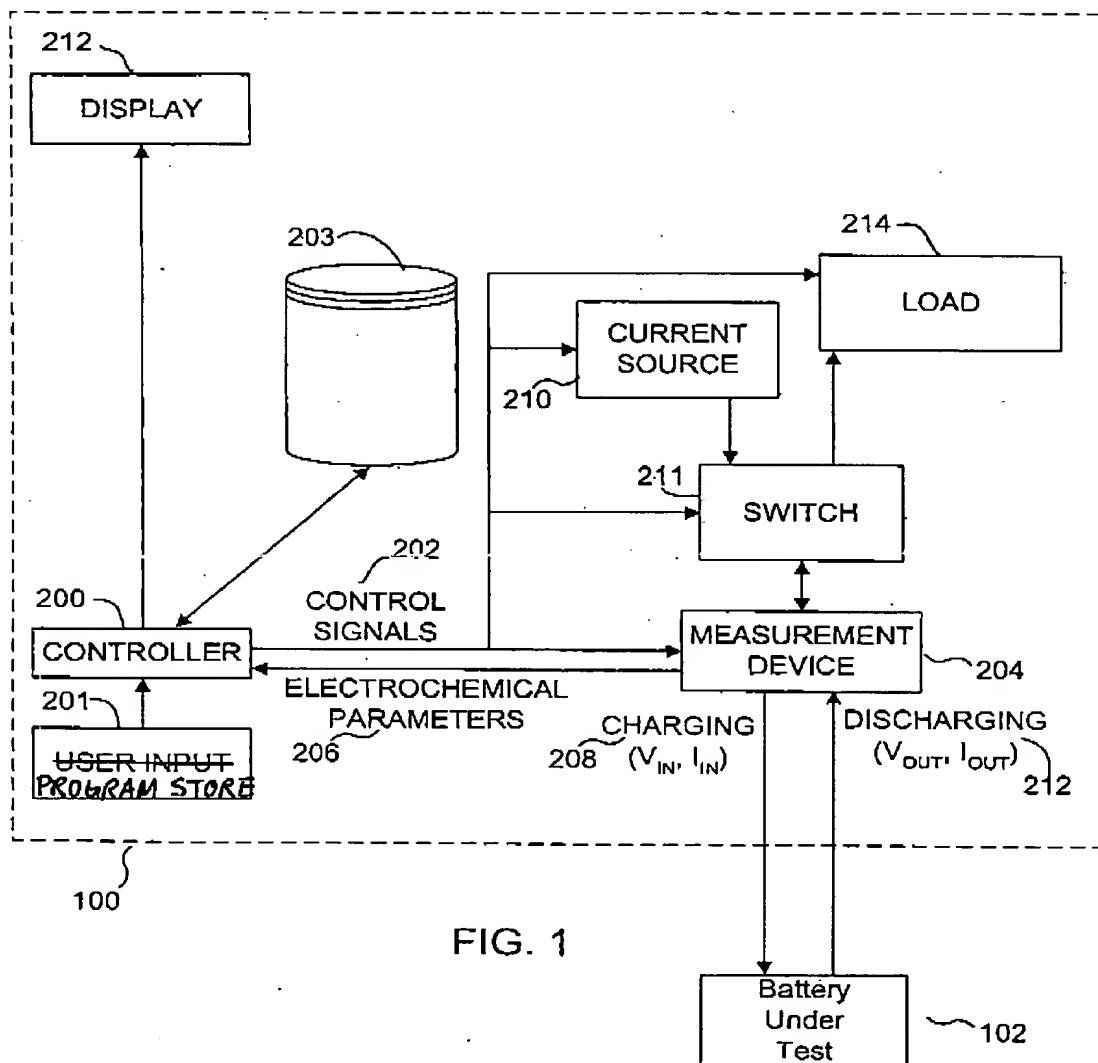


FIG. 1

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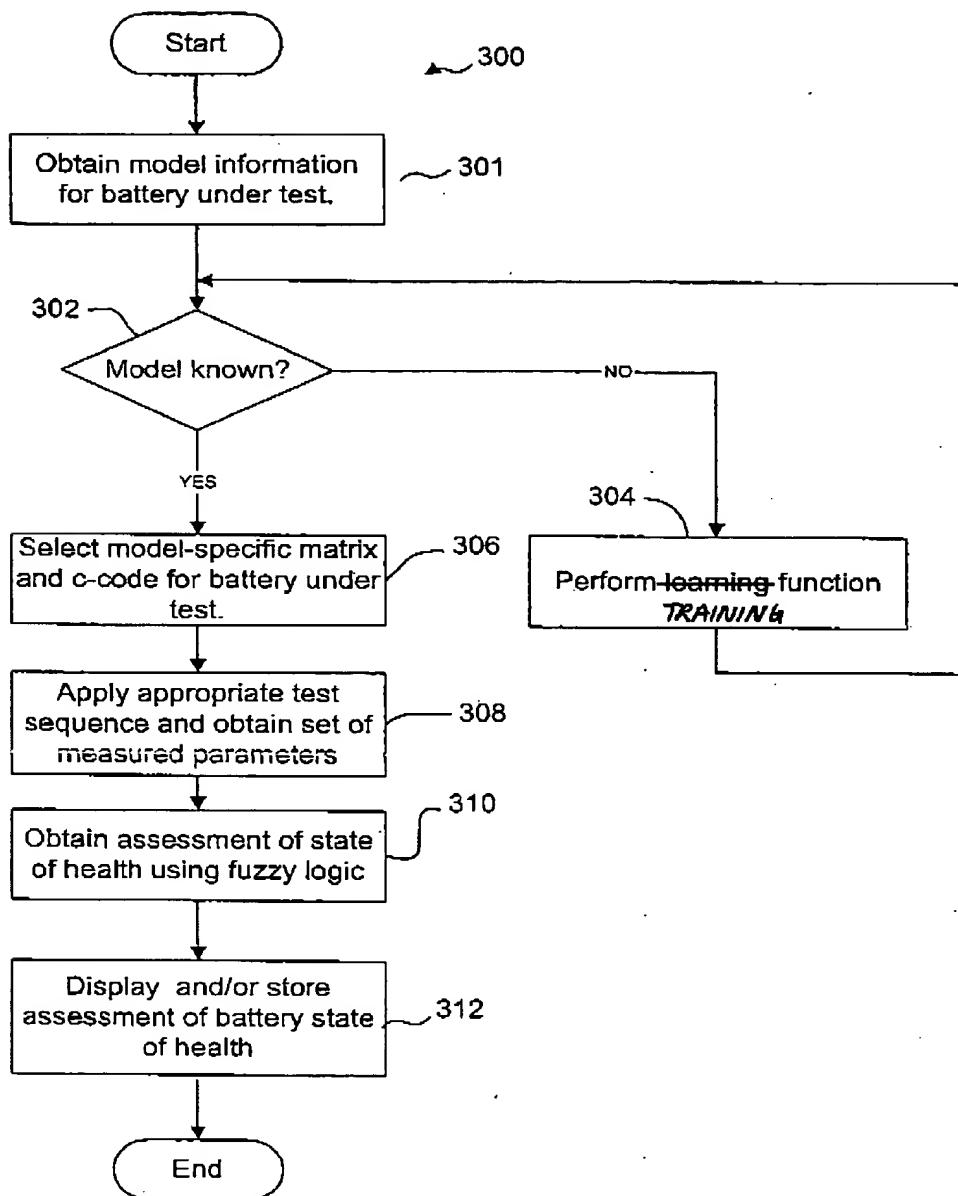


FIG. 3

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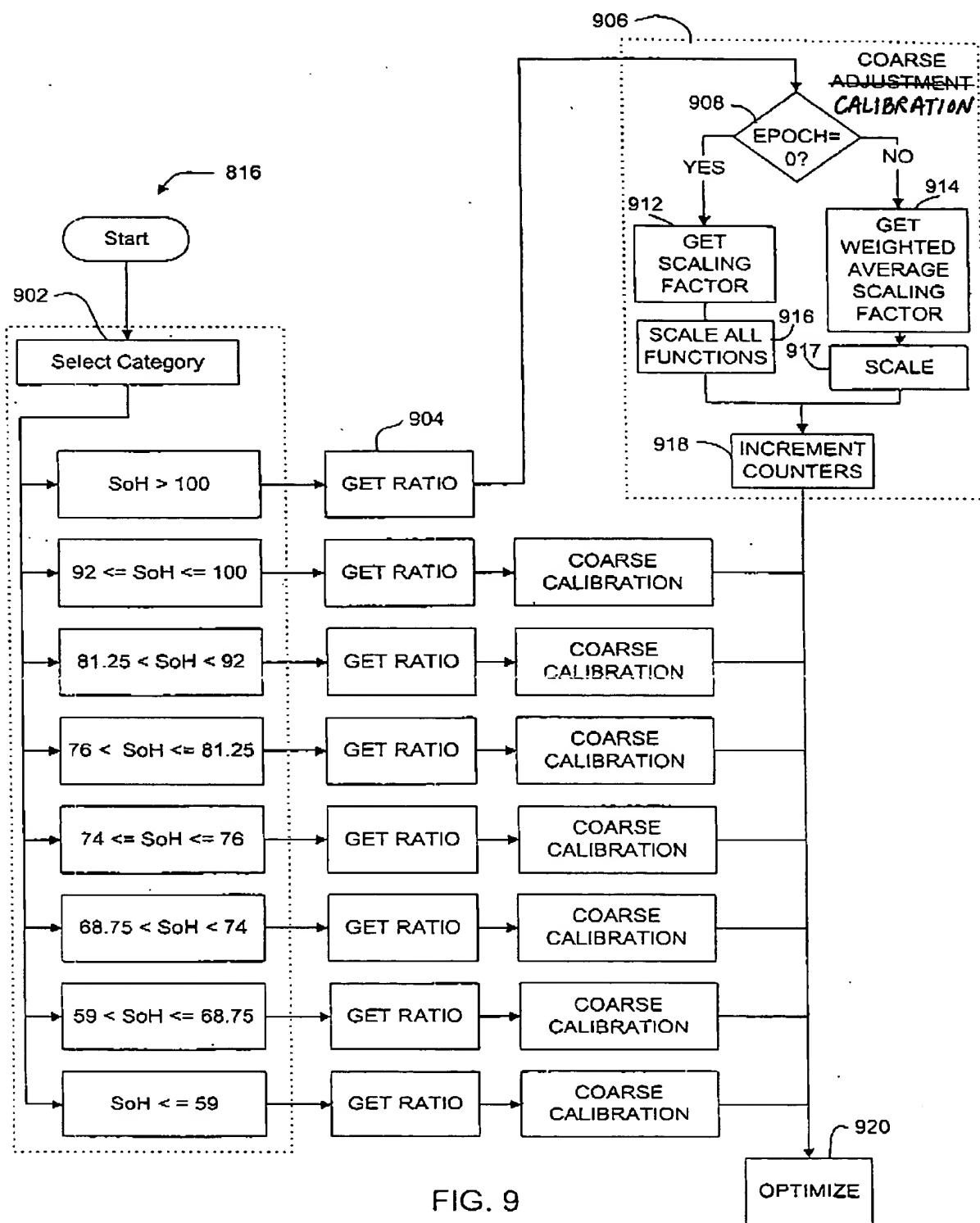


FIG. 9

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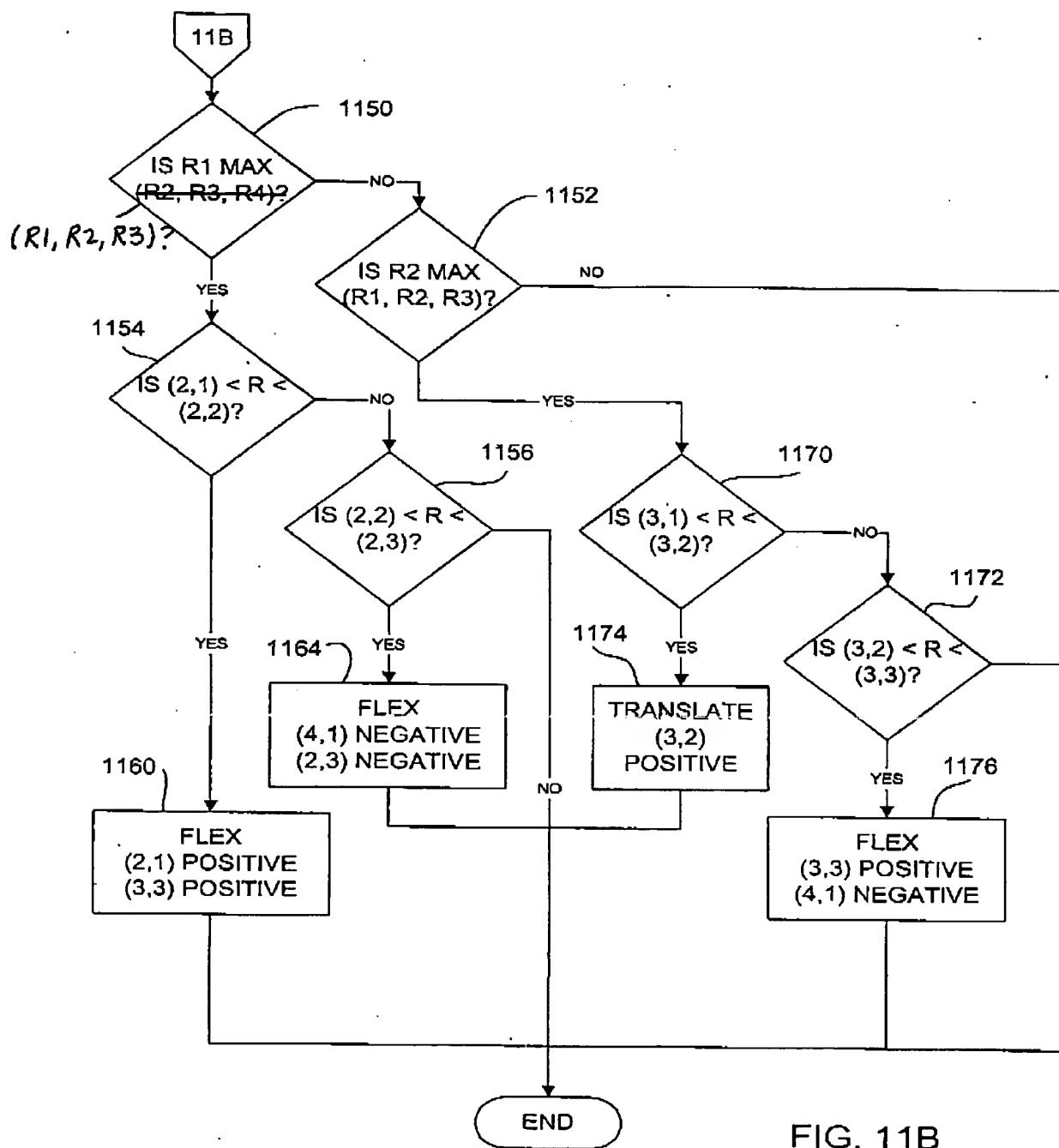


FIG. 11B

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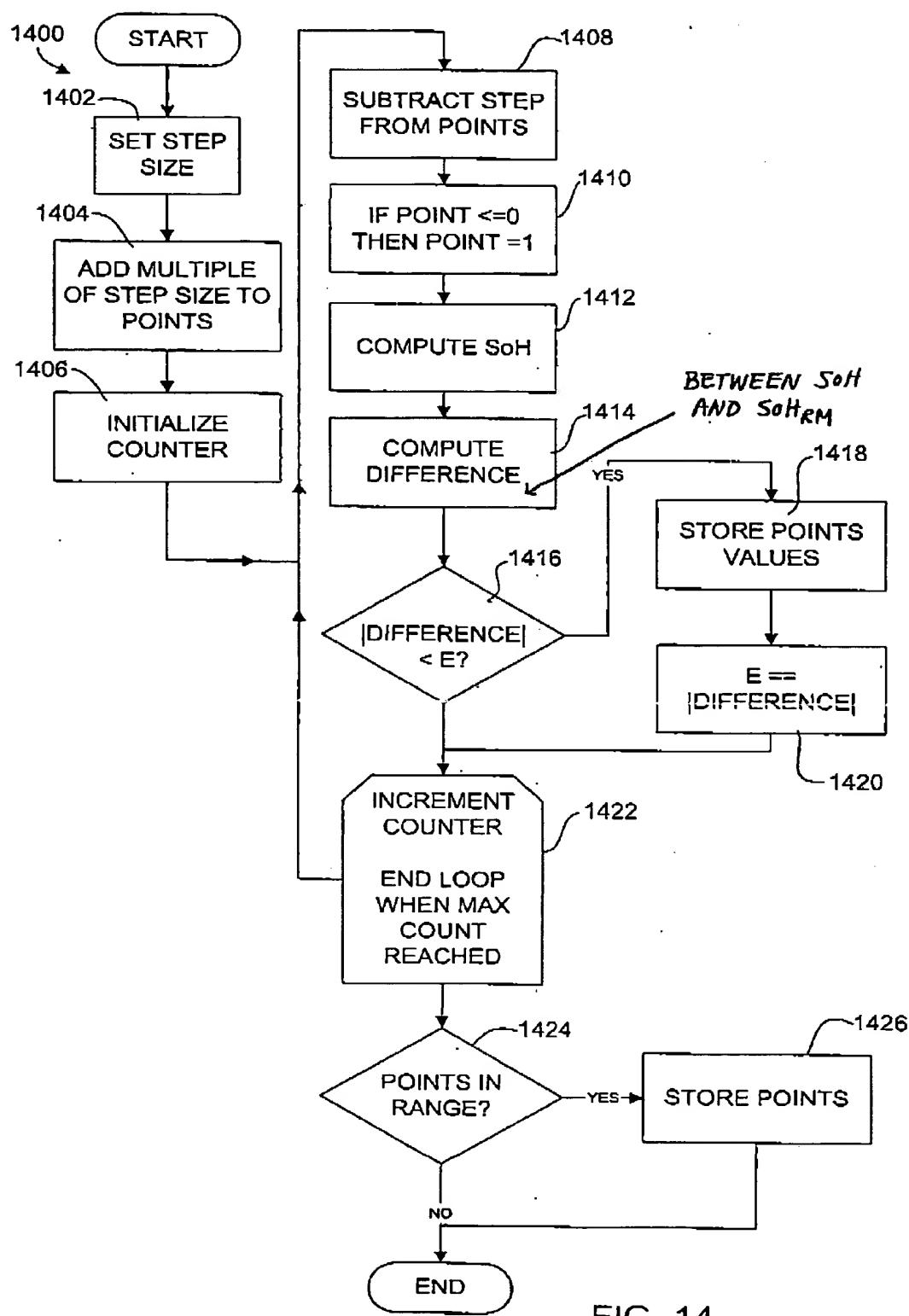


FIG. 14

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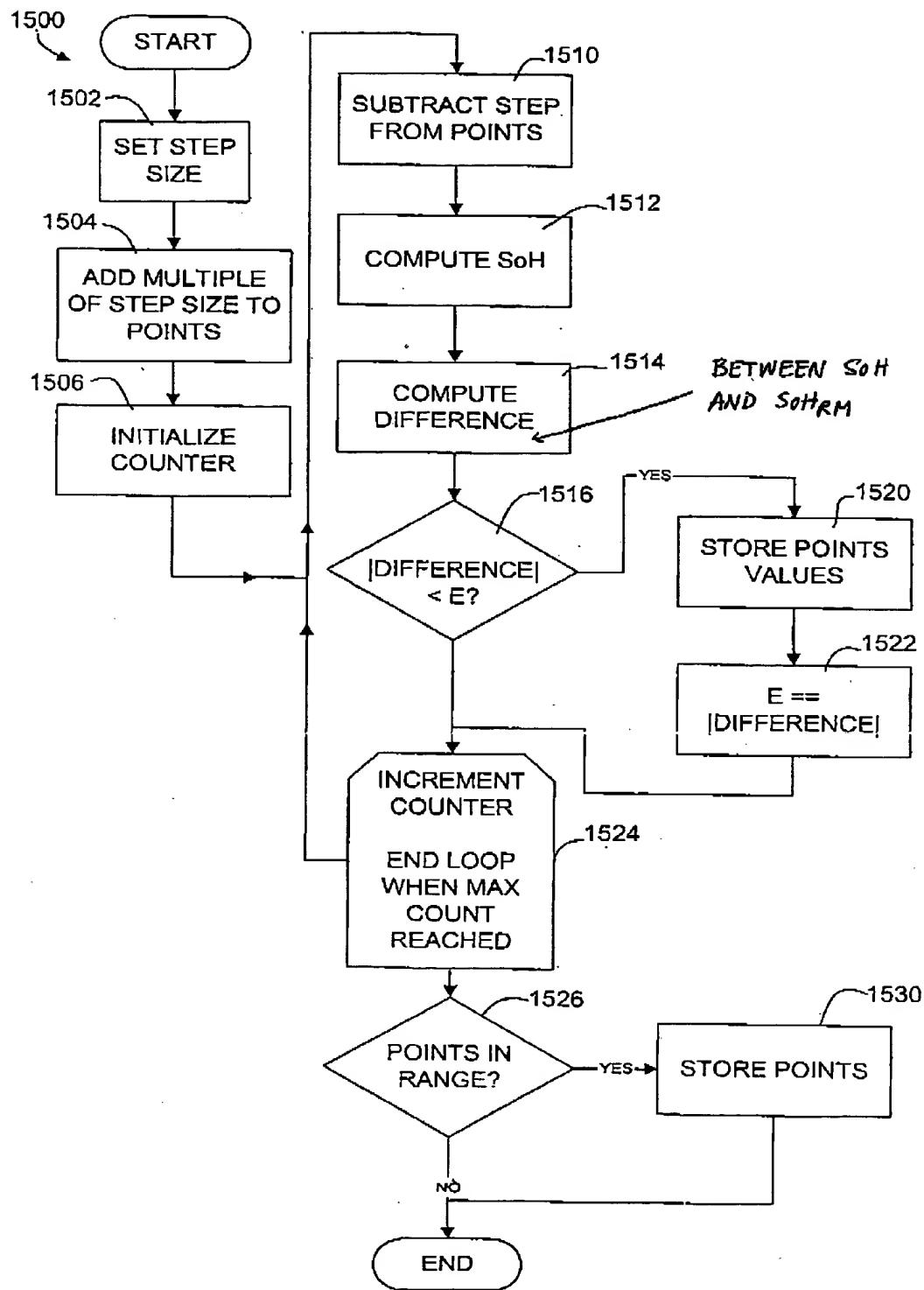


FIG. 15